NEXUS

POWER TROWEL

Model: NXT-90

Operator's Manual

Document #:	NEX-0001
Created Date:	01/2008
Revision:	1
Revision Date:	08/2009
	OI-N09101

ORIGINAL LANGUAGE

Bartell Morrison Inc.

375 Annagem Blvd.
Mississauga, Ontario, Canada
L5T 3A7

Toll Free (N.A.): (866) 501-1683
Phone: (905) 458-5455
Facsimile: (905) 458-5484

ORIGINAL LANGUAGE OPERATING INSTRUCTIONS FOR
NEXUS WALK-BEHIND POWER TROWELS © 2008 BY
BARTELL MORRISON INC.
ALL RIGHTS RESERVED.

No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of Bartell Morrison Inc. unless such copying is permitted by federal copyright laws.
Address inquiries or reference permissions care of:
Bartell Morrison Inc., 375 Annagem Blvd., Mississauga, Ontario, Canada, L5T 3A7

Revision	Rev. Date	Details	Approved
0	01-31-2008	Initial document release	G.M.T.
1	08-17-2009	Relocation	D.M.

TABLE OF CONTENTS:

PRODUCT SAFETY **5**

1.0 MEET THE NEXUS NXT-90 POWER TROWEL **6**
1.1 EQUIPMENT USE AND CARE 6
1.2 SAFETY FEATURES 6
1.3 NXT-90 DIMENSIONS 7
1.4 NXT-90 MAIN COMPONENTS 9
1.5 LIFTING THE NXT-90 11

2.0 SAFETY **12**
2.1 SAFETY AND OPERATIONAL LABELS 14
2.2 DOUBLE-DEADMAN SAFETY HANDLE 17

3.0 SETTING UP THE NXT-90 ..... **18**
3.1 USING THE FOLDING HANDLE 18
3.2 STARTING THE NXT-90 21

4.0 TROWEL TECHNIQUE **22**
4.1 TROWELLING 23
4.2 POWER TROWEL BLADES 25
4.3 FLOAT BLADES 26
4.4 FLOAT PANS 27
4.5 BLADE PITCH 28

5.0 STORAGE AND SERVICE **29**
5.1 PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE 30
5.2 ROUTINE SERVICE INTERVALS 32
5.3 STORAGE 32
5.4 TROWEL ARM ADJUSTMENT 33

CE DECLARATION OF CONFORMITY **36**
NOTES **38**

TABLE OF ILLUSTRATIONS & FIGURES

FIGURE	PG.	FIGURE	PG.
FIGURE 1: FOLDED DIMENSIONS.	7	FIGURE 13: IDEAL TROWELLING MOTION.	23
FIGURE 2: OPERATING DIMENSIONS. . . .	8	FIGURE 14: TROWELLING PASS DIR.	24
FIGURE 3: MAJOR COMPONENTS.	9	FIGURE 15: TYPICAL FINISHING BLADE. .	25
FIGURE 4: PROPER LIFTING.	11	FIGURE 16: LOOSEN RETAINING BOLTS. .	25
FIGURE 5: LABEL LOCATIONS.	14	FIGURE 17: ROTATE THE BLADE.	26
FIGURE 6: DEADMAN HANDLE OPER. . . .	17	FIGURE 18: TYPICAL FLOAT BLADE.	26
FIGURE 7: FOLDED HANDLE FEATURES.	18	FIGURE 19: TYPICAL FLOAT PAN.	27
FIGURE 8: UNLOCKING THE BAR.	19	FIGURE 20: PITCHING THE BLADES.	28
FIGURE 9: UNFOLDING THE HANDLE. . . .	20	FIGURE 21: TROWEL ARM LIFT ASSY. . . .	33
FIGURE 10: HANDLE LOCK KNOB.	20	FIGURE 22: ARM ADJUSTMENT FIXTURE.	33
FIGURE 11: PULL-STARTING THE NXT-90	21	FIGURE 23: SPIDER ASSY OIL BATH FILL.	34
FIGURE 12: STEERING THE NXT-90.	22		

This page intentionally left blank

PRODUCT SAFETY

READ OPERATING INSTRUCTIONS

Read and understand this entire manual before attempting to operate or service the equipment described herein. Failure to follow these operating instructions could result in serious injury or death. Store this manual with the machine and ensure it is apparent and available to any users.

CALIFORNIA PROPOSITION 65 WARNING

Engine exhaust, some of its constituents, and certain vehicle components, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

PRODUCT SAFETY AND HAZARD ALERT SYSTEM:

This Operating Manual presents Product Safety and Hazard Alert Information in accordance with *American National Standards Institute* and *International Organization for Standardization* recommendations as laid out in ANSI Z535 and ISO 3864. The callouts of DANGER, WARNING, CAUTION, and NOTE must be followed to reduce or avoid the potential for personal injury, equipment damage, or service-related equipment failures.

Safety Hazard Alert:
Alerts the reader to personal injury hazards and other important, potentially life-saving information.

DANGER:
Beware of a hazardous situation that WILL result in serious personal injury or death.

WARNING:
Beware of a hazardous situation that COULD result in serious personal injury or even death.

CAUTION:
Beware of a hazardous situation that could result in minor personal injury or equipment damage.

1.0 MEET THE NEXUS NXT-90 POWER TROWEL

The equipment depicted in these instructions is a pedestrian controlled, gasoline engine powered assembly including a rotor on which blades are attached that contact an uncured concrete surface. The rotor turns around a central shaft when under power and is supported through a worm gear speed reducer. For control of this assembly a handle is provided for the operator to grasp and manipulate the travel of the machine on the concrete surface. The assembly includes safety devices in accordance with North American and International standards.

1.1 EQUIPMENT USE AND CARE

The Nexus NXT-90 Power Trowel is designed for use on uncured concrete. It should be operated at all times in accordance with the instructions detailed in this manual:

- Use of this equipment for any purpose other than that stated within creates the risk of personal injury and/or property damage.
- Any modifications to the equipment must be performed by the manufacturer or an authorized dealer and must be authorized in advance by the manufacturer.
- The equipment should be serviced, cleaned, and stored as detailed by this manual.

The manufacturer of this equipment cannot be held responsible for any damages resulting from misuse, abuse, or neglect.

1.2 SAFETY FEATURES

The Nexus NXT-90 Power Trowel is equipped with safety guards in accordance with North American and International standards. The main safety ring protects the blades from collisions with solid objects, but more importantly protects the operator from the blades. The belt guard protects the operator from the main drive belt. The handle is equipped with a “double-deadman” operator presence system as standard equipment. The use and function of this system is covered in the next section.

DANGER

NEVER attempt to disable or circumvent these safety devices. They are present for the operator’s protection and any tampering will result in substantial risk to the operator and all present at the job site. If your NXT-90 safety devices have been tampered with, do not use the Power Trowel. Immediately contact your sales representative to obtain replacement parts or return the trowel to your dealer for repairs.

1.3 NXT-90 DIMENSIONS

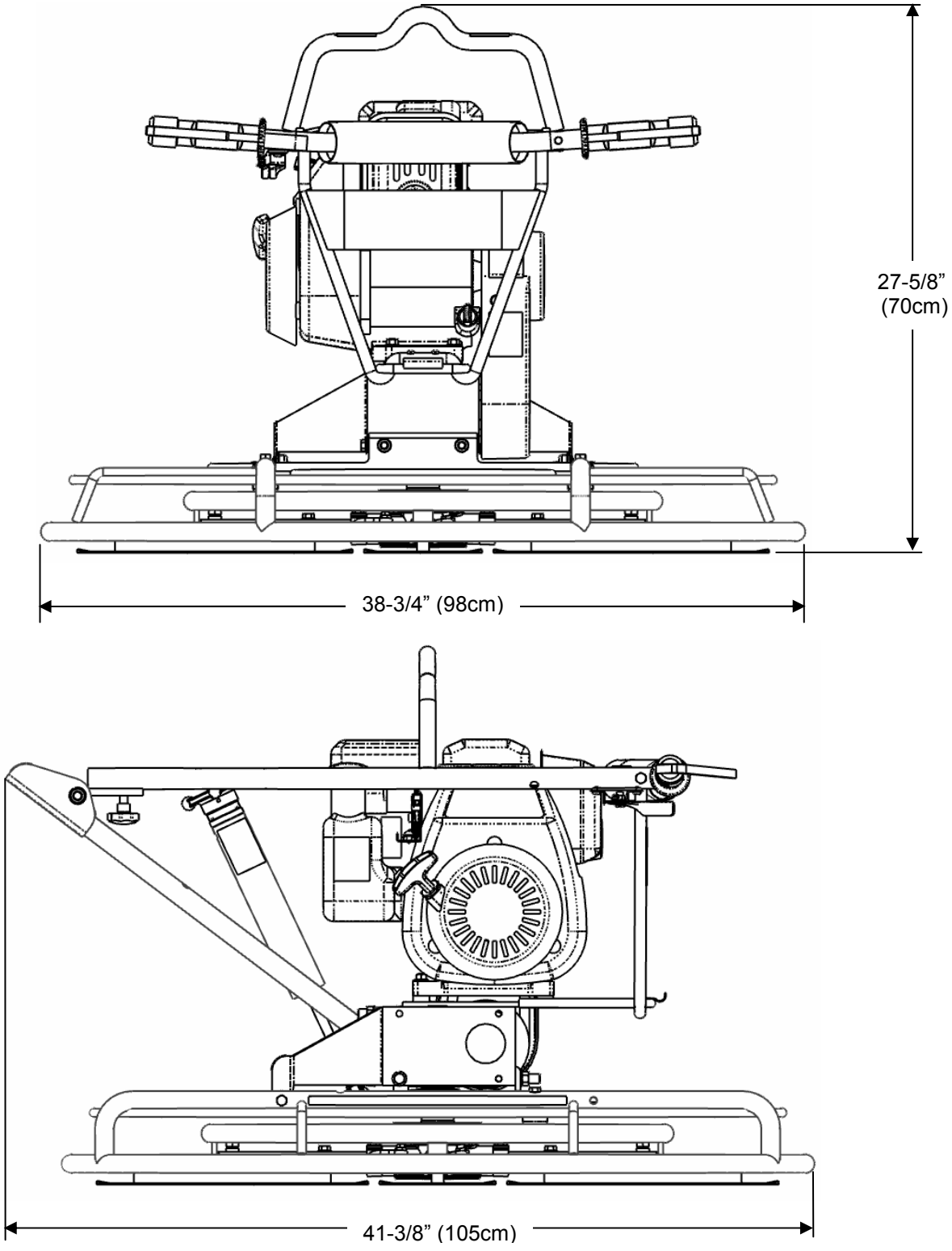


FIGURE 1: FOLDED DIMENSIONS (HONDA GC160 MODEL SHOWN)

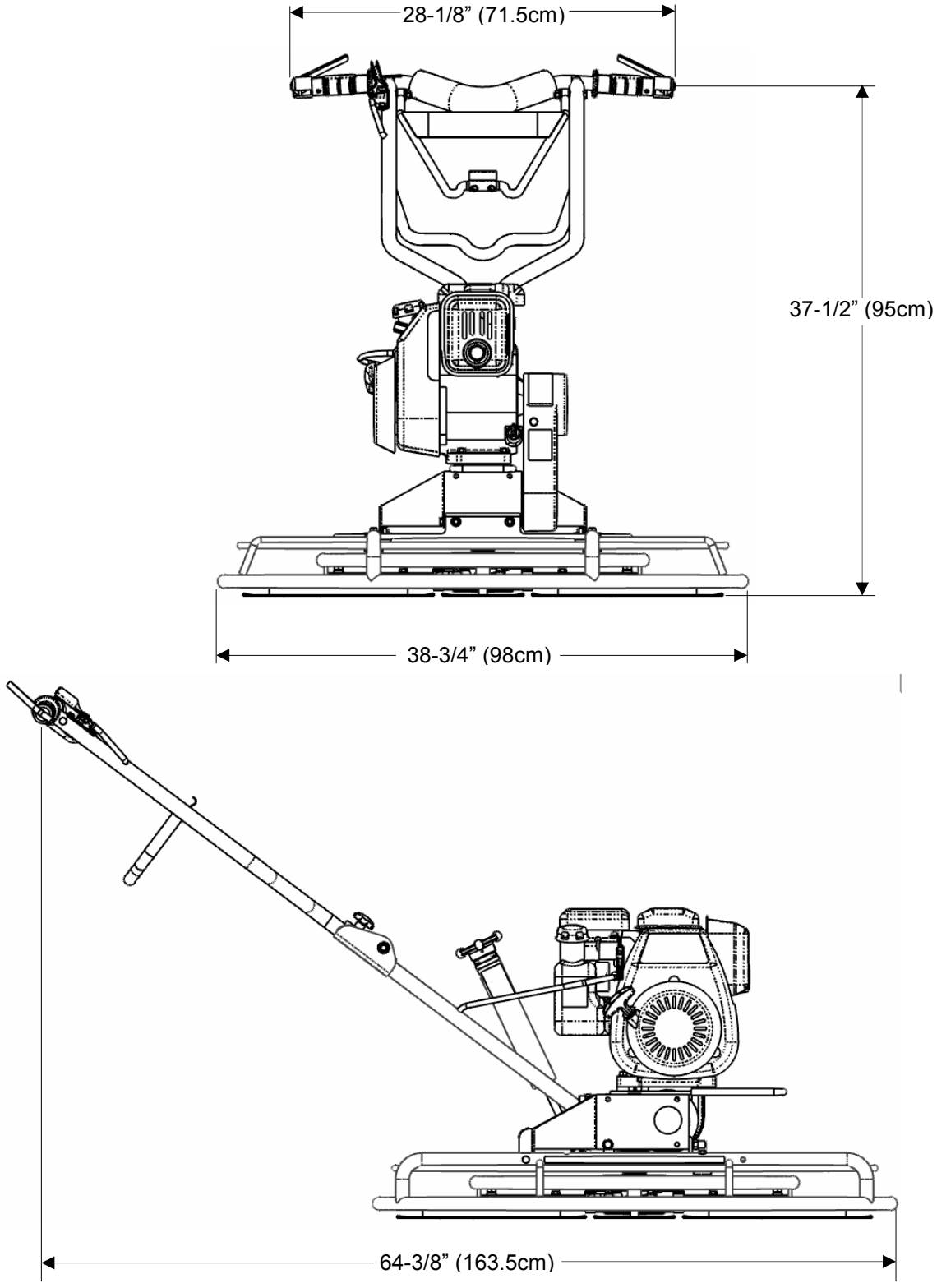


FIGURE 2: OPERATING DIMENSIONS (HONDA GC160 MODEL SHOWN)

1.4 NXT-90 MAIN COMPONENTS

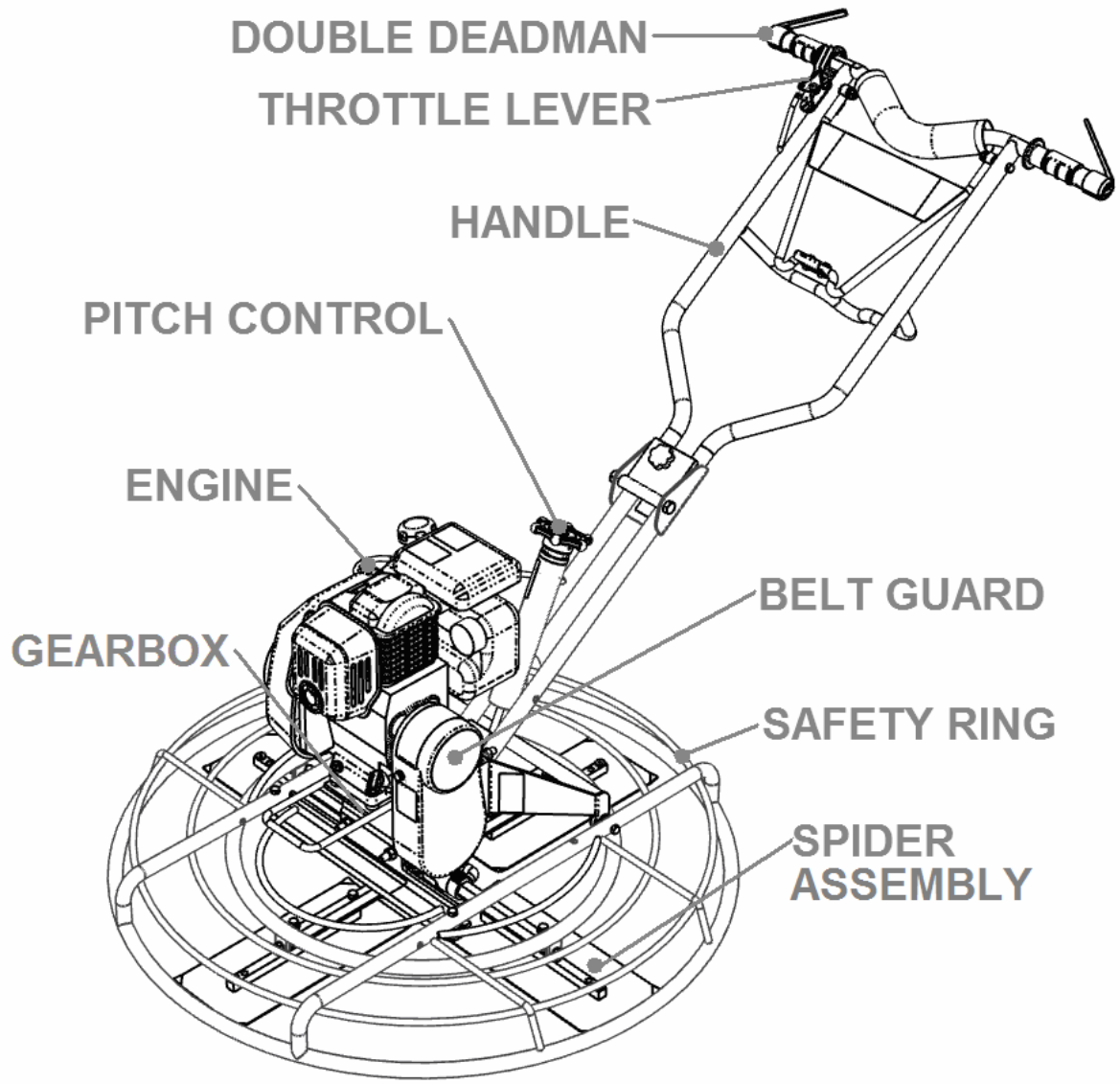


FIGURE 3: NXT-90 MAJOR COMPONENTS (HONDA GC160 MODEL SHOWN)

- **Drivetrain:**
  - **Engine:** The NXT-90 Power Trowel is available with three engine options: *Briggs & Stratton* Vanguard 6.5HP, *Honda* GC160, and *Honda* GX160. The engine warranty is provided by the manufacturer. For more details please refer to the engine manual included with your NXT-90. Missing manuals can be replaced by your equipment manufacturer directly or via your local dealer.
  - **Clutch and Belt:** The engine of the NXT-90 drives a centrifugal clutch, allowing the engine to idle without turning the spider. The drive belt, when engaged with the clutch, drives the gearbox pulley.
  - **Gearbox:** The NXT-90 gearbox is completely sealed and designed to avoid any leakage over the equipment's lifetime. The pulley attached to the countershaft drives a worm gear that turns the spider. The spider assembly and blade pitch control hardware attach to main shaft.

- **Belt Guard:** Designed to protect the operator from the rotating components of the drivetrain, the belt guard mounts directly to the engine and should never be removed during operation.
- **Safety Ring:** Serves the dual purpose of protecting the rotating spider assembly from impacts with obstacles, and keeps the operator's hands and feet out of the path of the blades. The safety ring is removable for easier blade maintenance, and is mounted with rubber shock absorbers to reduce vibration and noise. The safety ring should always be installed before starting the engine.
- **Spider:** The spider assembly consists of the spider hub and trowel arms, the trowel blades, the blade pitch arms, and the stabilizer ring. The entire assembly is attached to the main gearbox shaft via a single bolt and square key. The trowel blades are double-edged for extra life and designed for easy replacement. A bent trowel arm will severely affect the performance of your Power Trowel, so these can easily be replaced.
- **Handle:** When unfolded and locked, the handle provides the operator with easy and ergonomic control over the Power Trowel. When folded over and locked in place, the handle becomes a hoist lift point and a protective cage for the engine during transportation. Please refer to the *Trowel Technique* section for details on how to properly use the NXT-90.
- **Throttle Lever:** The throttle lever provides the operator with quick and reliable control of the engine speed. The lever will move in different directions for different engine configurations. On the *Honda* GC160 model of NXT-90, setting the throttle lever to minimum will shut down the engine, while the other models will simply set the Power Trowel to idle.
- **Double Deadman System:** Designed to protect the operator and equipment in the event the operator lets go with both hands, the engine will immediately shut down. By using two deadman handles, the operator can release either hand while holding on with the other without shutting down the engine. When released, the trowel will begin to spin freely, but with the engine shut down, even from full speed, the trowel will come to a full stop within ½ rotation. Please refer to the *Safety* section for further details.

1.5 LIFTING THE NXT-90

The NXT-90 should always be lifted by mechanical means. NEVER attempt to lift it by yourself, as this can result in back strain and other injuries, as well as damage to equipment and property. Ensure the engine is not running and has cooled down before lifting.

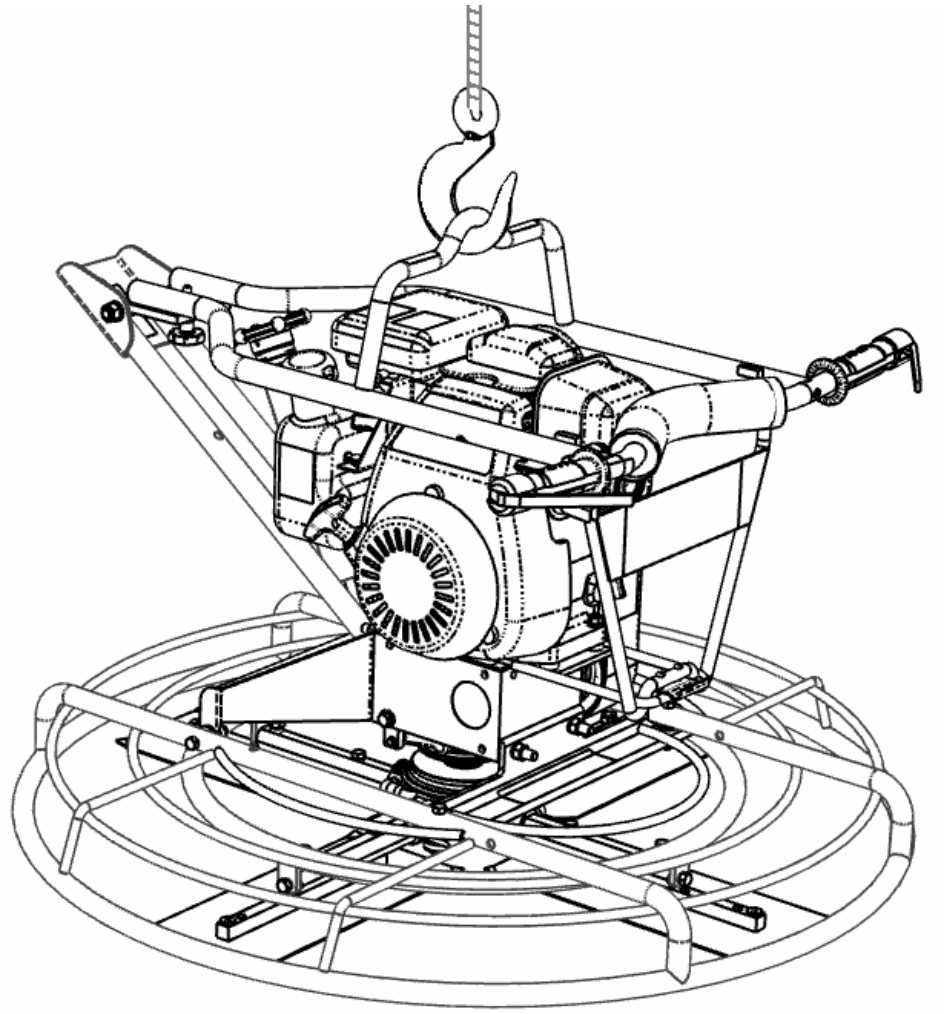
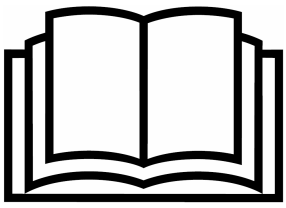


FIGURE 4: PROPER LIFTING

The NXT-90 should be lifted by mechanical means. With the handle folded and locked in position the lift point can be used with a grab hook or sling to lift the Power Trowel into position.

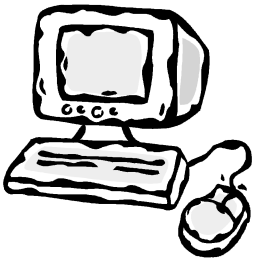
2.0 SAFETY

The instructions provided in this manual are done so to ensure the operator's safety as well as that of others, the equipment, and the job site. Failure to abide by these guidelines can lead to serious personal injury and even death. The operator and any service personnel should read and understand the entire manual before working with or servicing the NXT-90.



- The NXT-90 manual should be kept at all times in a place that is accessible to any persons working with the machine. Replacement manuals can be purchased from the equipment manufacturer or from your local dealer.

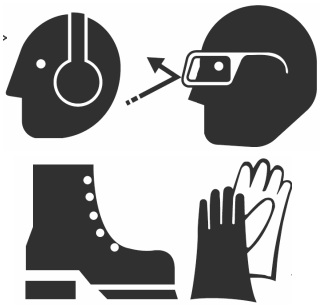
- Only use parts and attachments supplied or approved by your Nexus equipment manufacturer. The consequences of modifying the design of this equipment can include personal injury, equipment failure, and voiding your warranty. If you are unsure about a repair or an apparent malfunction, contact your Nexus dealer or the phone contacts at the bottom of each page of this manual.



- Technical service bulletins, user's manual updates, and other information are posted on the Nexus website:
  http://www.nexusequip.com
  Check this website periodically for updates or other potentially useful information about your equipment.

- NEVER use the NXT-90 in an enclosed space with poor air flow, such as a basement or small room. The gasoline engine produces, among other things, toxic carbon monoxide gas. Without proper ventilation, this gas will build up and cause health effects such as organ damage and death to anyone in the vicinity.

- The Power Trowel operator should always be lucid and aware of his/her surroundings. NEVER operate the NXT-90 while under the influence of drugs, alcohol, fatigue, sickness, hangover, extreme depression, emotional distraction, or medications/substances that may affect motor skills or judgment.



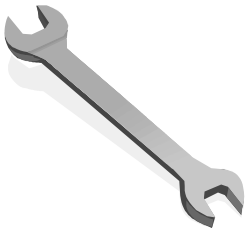
- ALWAYS wear the appropriate personal protective equipment (PPE) while operating the NXT-90 Power Trowel. This includes (but is not limited to) safety glasses, hearing protection, protective footwear, and heavy or padded gloves. Other safety gear may be job-site appropriate.

- NEVER leave the NXT-90 unattended while running.

- ALWAYS ensure that the operators have been properly trained prior to using the equipment.

- Children and small animals should NEVER be present in the work area during operation of the NXT-90.

- ALWAYS check your NXT-90 for loose or missing nuts and bolts before starting. Tighten any loose fasteners and replace missing or broken parts.

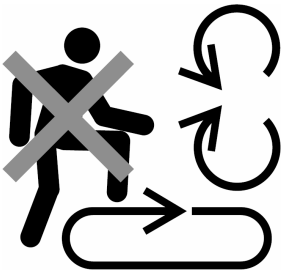


- Perform all routine maintenance as described within this manual. Failure to do so will void your warranty and will eventually result in premature equipment failure.

- NEVER perform maintenance on a running piece of equipment. Shut down the engine and allow it to cool before servicing the NXT-90, including mechanical work or lubrication.

- ALWAYS replace missing, damaged or unclear safety labels to ensure operator awareness and safety.

- NEVER operate the NXT-90 with missing or damaged safety guards. Replace immediately with appropriate Nexus parts.



- NEVER put hands, feet, or other appendages inside the guard ring or belt guard while the engine is running, even at idle or with protective clothing, as serious injury may result.

- NEVER wear loose fitting clothing or jewellery around rotating equipment such as the NXT-90 as it may become entangled in the machinery, resulting in serious injury.

- NEVER fuel the NXT-90 while the engine is running. Ensure the engine has cooled sufficiently before refueling to avoid igniting gasoline fumes.

- ALWAYS refuel the NXT-90 in a well-ventilated area, away from ignition sources such as sparks, flames, and lit cigarettes. Smoking while fuelling the equipment may result in explosion.

- NEVER operate the NXT-90 in explosive environments such as those where paint fumes, methane, natural gas, fine particulate, aerosol propellant, or solvent fumes are present.

- NEVER smoke near the NXT-90 as stray gasoline fumes may ignite. Operating the NXT-90 around an open flame may also result in explosion.

- ALWAYS shut down the engine and allow it to cool off before lifting or transporting the NXT-90.

- ALWAYS tie down the NXT-90 when being transported in a truck or on a flatbed. Empty the fuel tank if transporting it over long distances.

- NEVER attempt to lift the NXT-90 alone, always lift with a mechanical aid.

2.1 SAFETY AND OPERATIONAL LABELS

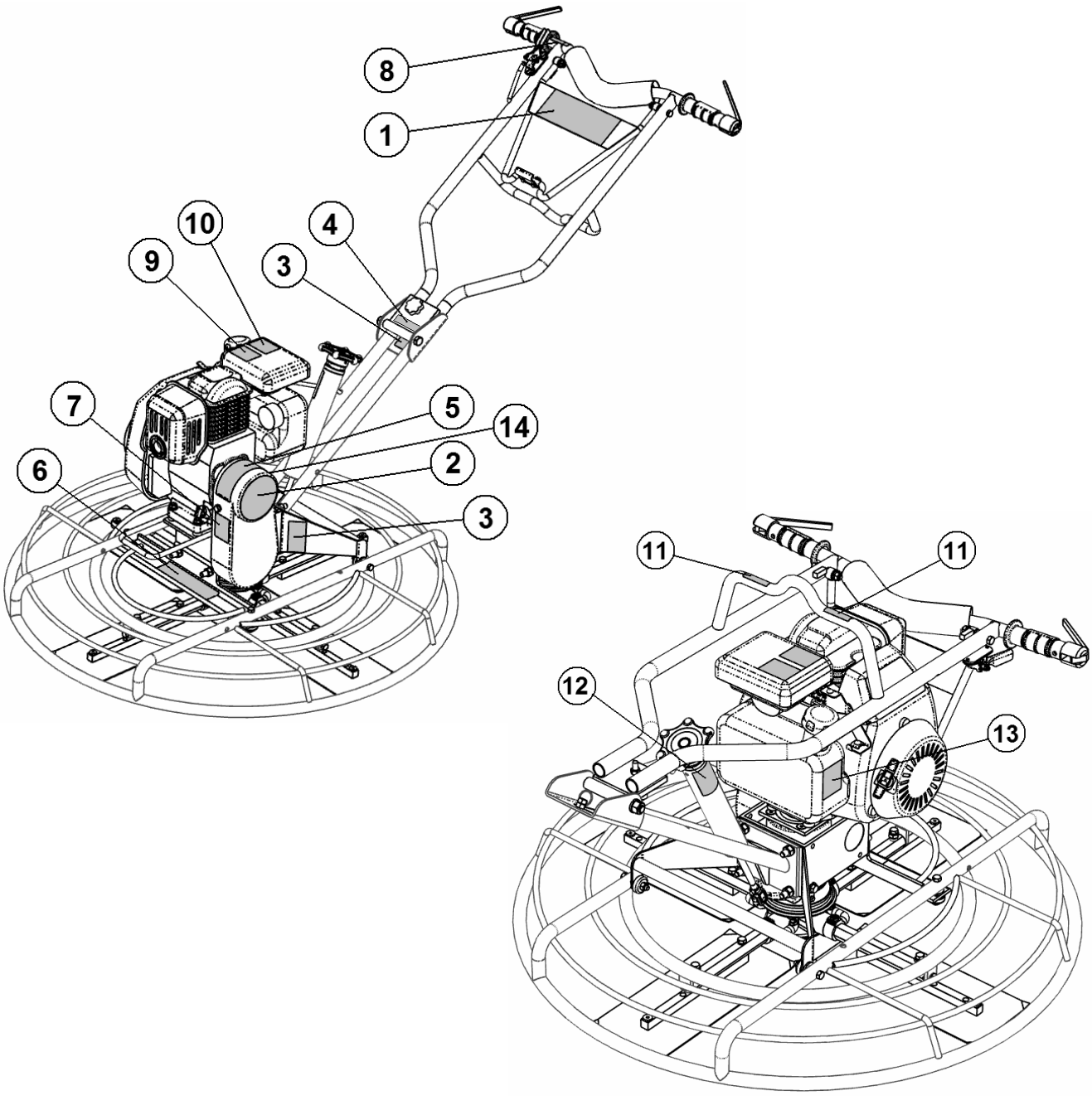
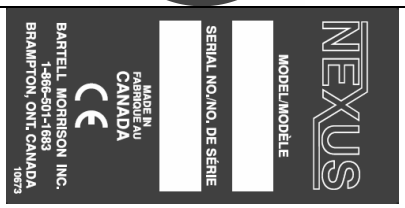
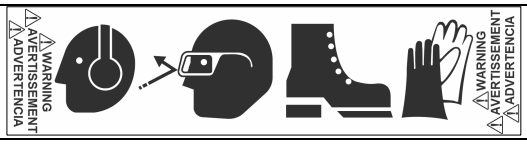
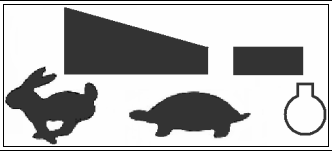
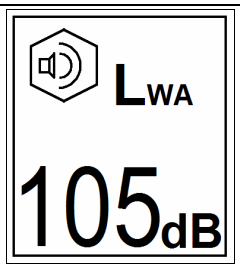
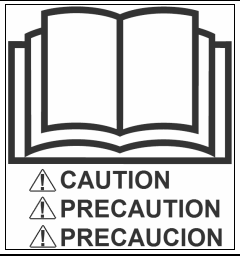


FIGURE 5: LABEL LOCATIONS (HONDA GC160 MODEL SHOWN)

1 & 2		Nexus Product Brand Labels
3		Nexus Model and Serial Number plate (2 locations)
4		Product Model Number NXT-90
5		WARNING: Use appropriate protective clothing, including hearing protection, shatter-resistant eyewear, steel toed boots, and protective handwear
6		WARNING: Keep hands and feet clear of rotating blades
7		DANGER: Keep hands clear of drive belt while engine running
8		Throttle control lever movement: Stop, Slow, Fast
9		WARNING: Hot surface, do not touch

10		DANGER: Exhaust products can be toxic, use in well-ventilated environment
11		CAUTION: Mechanical lift point; hoist by this point only
12		Maximum sound level 105dB
13		WARNING: Shut down engine and allow sufficient cooling time before refueling this equipment
14		CAUTION: Read and understand entire operator's manual before using or servicing this equipment

NEXUS

2.2 DOUBLE-DEADMAN SAFETY HANDLE

The Nexus NXT-90 comes equipped with an operator presence system that allows the user to run the Power Trowel with the freedom to take either hand off of the handle without shutting down the engine. If both hands are removed for any reason, such as a fall, stumble, or other emergency, the engine will shut down to prevent runaway equipment.

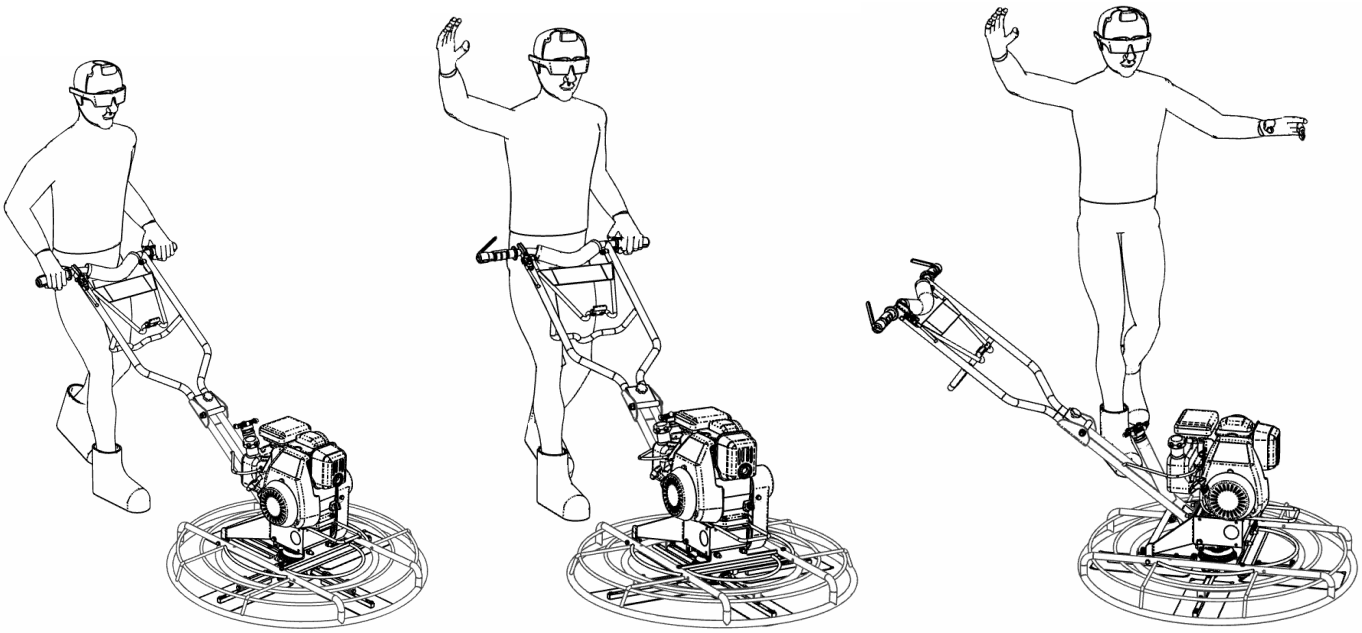


FIGURE 6: DEADMAN HANDLE OPERATION

WARNING

It should be noted that the NXT-90 will immediately begin to rotate in the opposite direction to the blades when both of the handles are released. Even with the engine shut down, the drivetrain will have sufficient momentum to spin the handle up to 180^{O} (1/2 turn) before coming to a stop. For this reason, do not attempt to grab the handle after releasing it. Stand clear and let the equipment come to rest before approaching it again.

3.0 SETTING UP THE NXT-90

Your Nexus NXT-90 comes fully assembled with the folding handle and engine already installed. Nexus equipment is shipped without engine oil or gasoline, so fill these fluids per your engine's instruction manual before proceeding. When starting an engine for the first time, or after a long period of storage, several pulls may be required before the engine runs.

NEVER attempt to add fuel or oil to the engine while it is running. Shut down the engine and allow it to cool down before opening the fuel cap for refueling. NEVER smoke while handling gasoline. If gasoline is spilled anywhere on or around the equipment wipe it up and allow the fumes to clear before starting the engine.

3.1 USING THE FOLDING HANDLE

The handle of the NXT-90 folds forward and locks into position for storage and transportation. The upper handle becomes a protective cage for the engine and a balanced hoist point for mechanical lifting.

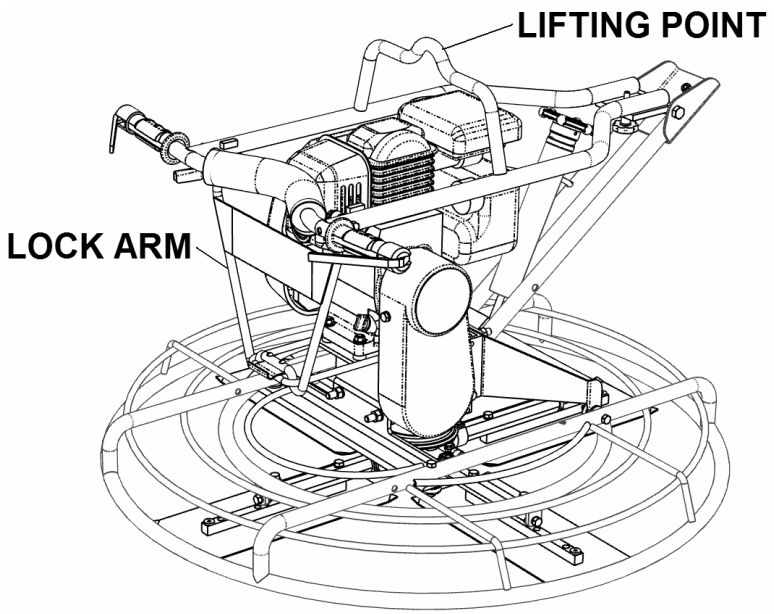


FIGURE 7: FOLDED HANDLE FEATURES

WARNING

ALWAYS unfold the handle and lock in the open position before starting the engine. Failure to do this may result in equipment damage or personal injury.

To completely unfold the handle:

1. Grab the lock arm at the hook and push backward, toward the engine, until the latch releases the grab bar (see Figure 8).
2. Once the latch is free, lower the hook beneath the grab bar and bring it forward until the lock arm is completely free of the grab bar (see Figure 8).
3. Unfold the handle completely. Fold the lock arm down to be flush with the upper handle (see Figure 9).
4. Insert the lock screw with hand knob (near the joint) into the nut on the lower handle. Turn the hand knob clockwise until it is fully tightened (see Figure 10). Do not overtighten the hand knob using a wrench or other tool, as this will make unlocking the handle difficult and risks stripping the threads on the lock screw.

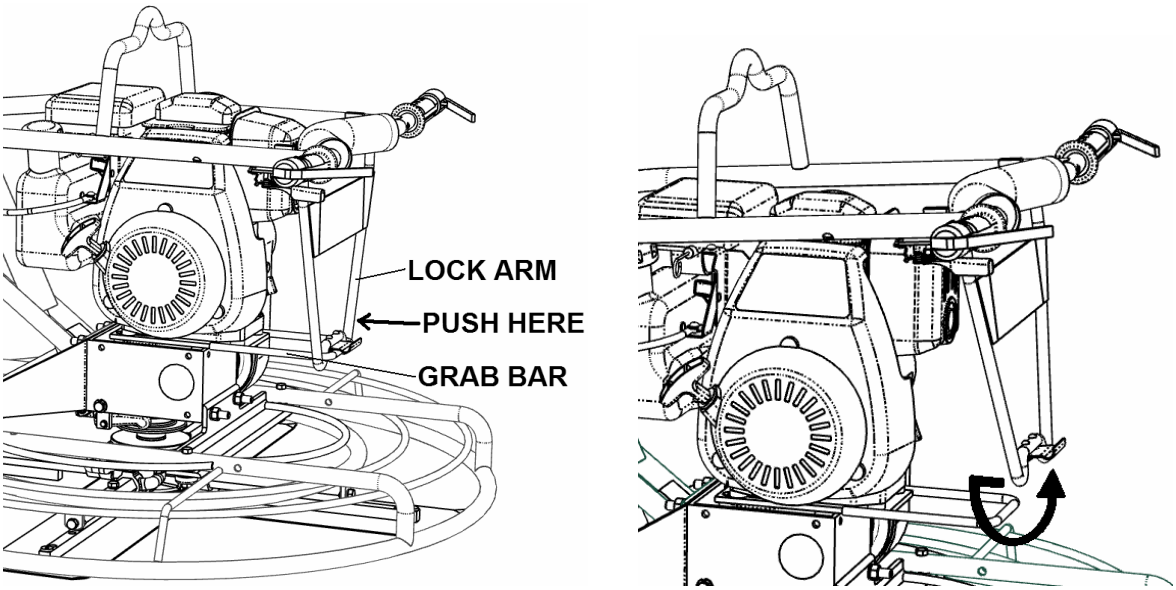


FIGURE 8: UNLOCKING THE LOCK BAR

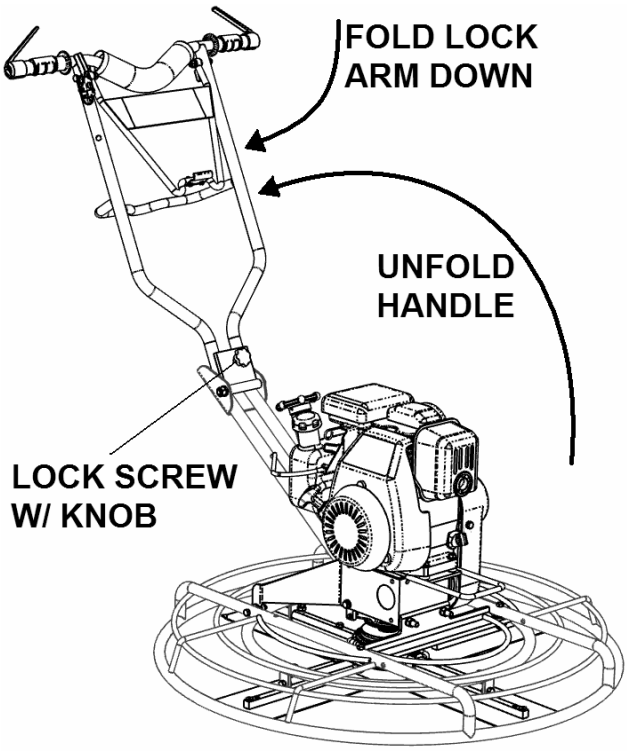


FIGURE 9: UNFOLDING THE HANDLE

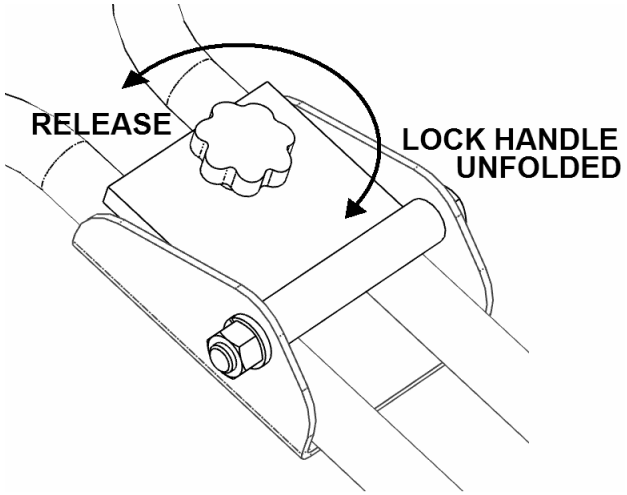


FIGURE 10: HANDLE LOCK KNOB

3.2 STARTING THE NXT-90

Please refer to your engine's manual for details and troubleshooting. The startup procedure is the same for all 3 engine options:

1. Set the engine's fuel flow valve lever to "ON".
2. Set the engine choke to "ON".
3. Set the engine's master switch to "ON". For the Honda GX160 and Vanguard 6.5 engine options there is a physical ON/OFF switch on the engine. The Honda GC160 includes the ON/OFF switch on the throttle mechanism (see next step).
4. Set the throttle to idle. For the Honda GX160 and Vanguard 6.5 engines, this means setting the throttle lever to minimum. For the Honda GC160, which includes a shut down switch at the minimum throttle setting, set the throttle lever to the idle position, about 1/3 away from minimum setting. Observe the throttle lever on the engine to better judge what position is appropriate.

ALWAYS set the throttle to idle during startup. Failure to do so will cause the blades to start turning immediately, risking personal injury.

5. Hold one of the deadman levers inward with your left hand and grab the starter cord with your right hand. While constantly holding the deadman lever down, firmly pull the starter cord as directed in your engine's manual (see Figure 11).

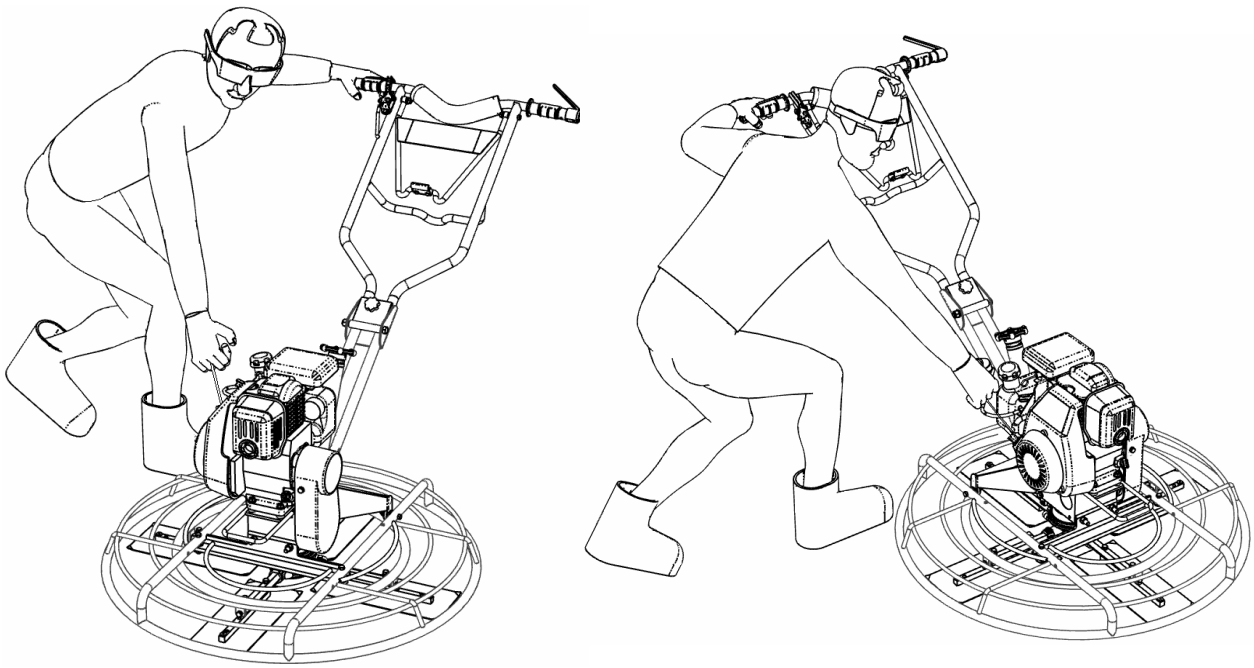


FIGURE 11: PULL-STARTING THE NXT-90

4.0 TROWEL TECHNIQUE

Practice makes permanent. To practice using the NXT-90 find a clean, flat, and smooth existing concrete floor. A rough floor will damage your trowel blades and create excessive vibration. Unfold the handle, start the engine and learn the feel and control of your Nexus Power Trowel, starting at low throttle and working up to full throttle.

The easiest direction to pull the NXT-90 is backward. Pulling gently on the handle while holding it with both hands will cause it to float toward you.

CAUTION

The handle will try to rotate away from you while the engine is running, so hold it firmly to keep it steady.

If the entire trowel is pulling to the right or left, balance it by lifting up or pressing down on the handle. Do not try to stop the sideways motion of the trowel with direct sideways force, balance it by lifting or pressing down on the handle. Practice holding the trowel steady in one place for a few minutes at a time.

To move sideways it is always best to let the trowel do the work. The rotating blades create a sideways force when the trowel is leaned forward or backward. Lift up on the handle to make the machine go left, or press downward on the handle to make the trowel go to the right. The best way to remember this is “Lift to go Left”. Never press or lift with enough force to make the blades edges dig into the concrete.

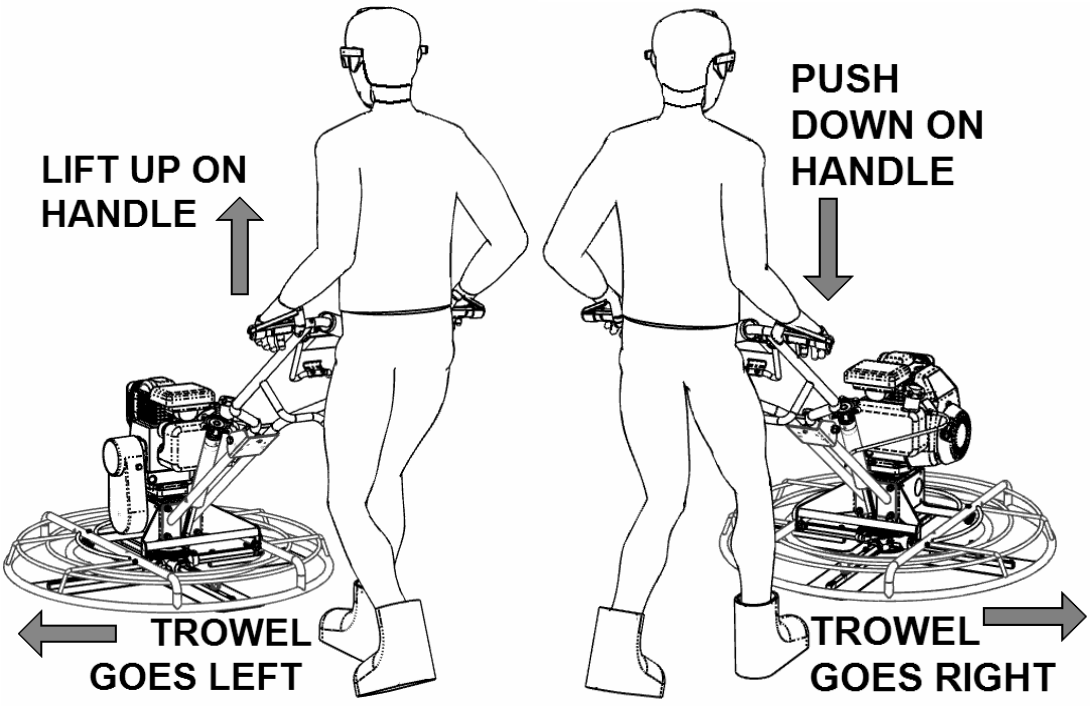


FIGURE 12: STEERING THE NXT-90

4.1 TROWELLING

Trowelling the concrete surface eliminates large aggretates near the surface, levels bumps and depressions, and consolidates the surface to make it stronger. The surface must first be sufficiently cured to support the weight of the trowel. The surface should first be leveled using a float or vibratory screed. To use the standard finish blades, the concrete should be cured enough that the operator does not leave a footprint deeper than about 3mm (1/8 inch).

The ideal way to trowel is to work backward, traveling up and down the slab pulling the Power Trowel toward you and making elongated, overlapping sweeps (see Figure 13). This allows you to thoroughly cover your footprints in the concrete as you walk. Work steadily and patiently, going too fast will result in poor consolidation and an unattractive finish. Each pass should be made in a perpendicular direction to the previous one (see Figure 14).

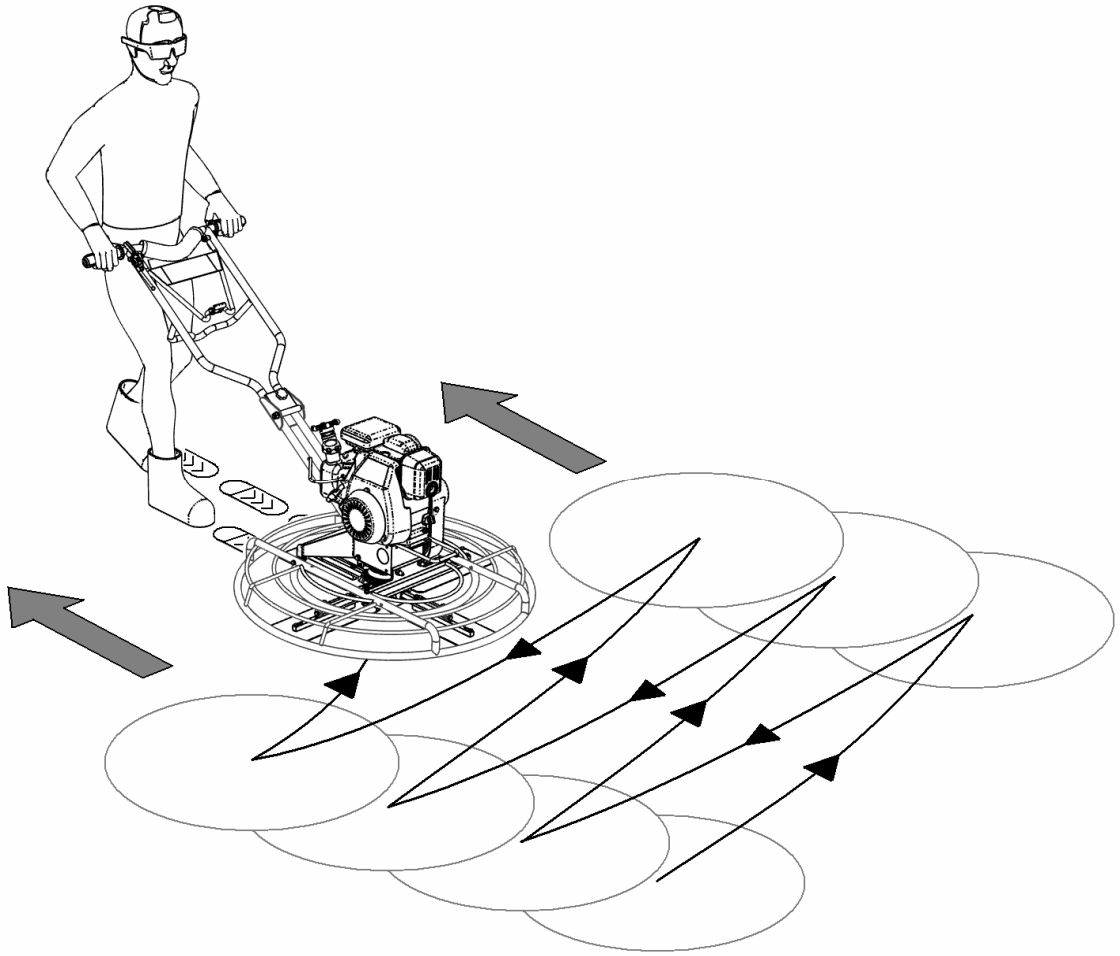


FIGURE 13: IDEAL TROWELLING MOTION

CAUTION

ALWAYS look where you are going. Be aware of any pipes or other protrusions from the concrete to avoid tripping or striking the blades. Striking the blades can bend the trowel arms or damage the drivetrain.

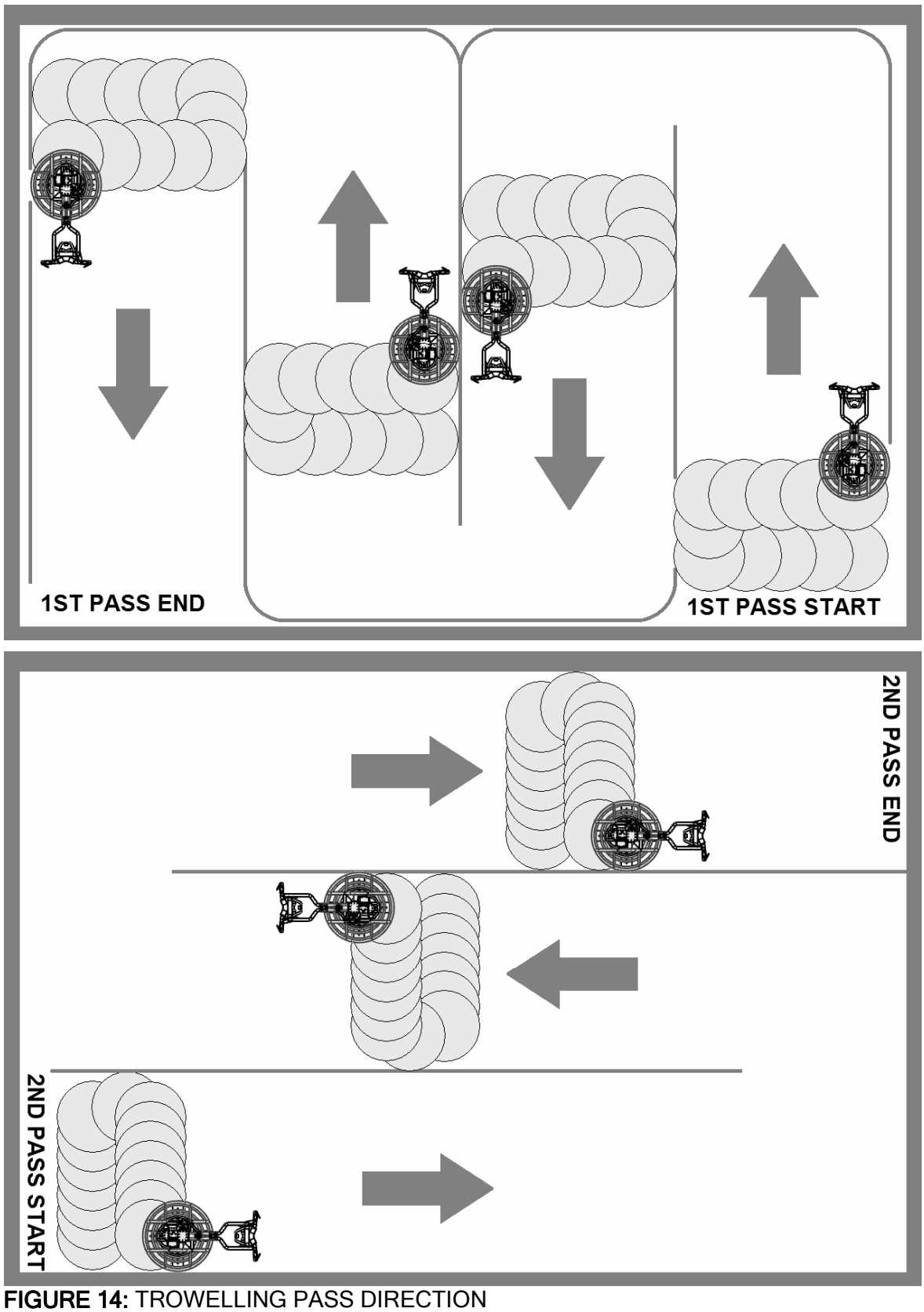


FIGURE 14: TROWELLING PASS DIRECTION

4.2 POWER TROWEL BLADES

The NXT-90 comes equipped with four (4) reversible, 6-inch x 14-inch (15.25cm x 35.5cm) finishing blades (see Figure 15). The special trowel steel of each blade will provide your concrete with a quality finish. These blades will wear down with use; each blade can be reversed when the first edge is no longer providing the desired finish quality. When both edges have been expended, it is time to replace the blade. Refer to the Parts Catalogue for part numbers and ordering information.

Do not let your Power Trowel sit motionless in wet concrete for extended periods. The blades will become stuck as the concrete cures and can damage the drivetrain upon restart. If your Power Trowel does become stuck, work the blades free by leaning it in several directions.

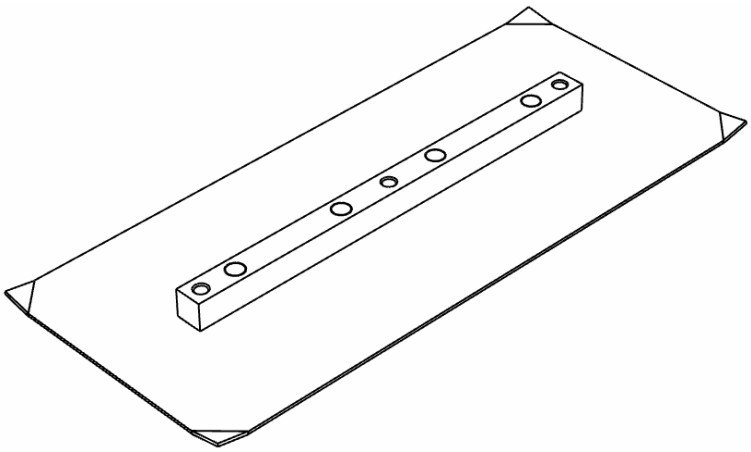


FIGURE 15: TYPICAL FINISH BLADE

To reverse a blade, follow these steps:

1. Raise the NXT-90 above the floor by putting blocks under the safety ring or by suspending it by the hoist hook on the folded handle. Work away from the wet concrete or any grates where small parts can be lost.
2. Loosen the inner and outer retaining bolts using a wrench. Loosen the inner bolt to the point that it can be removed (see Figure 16).

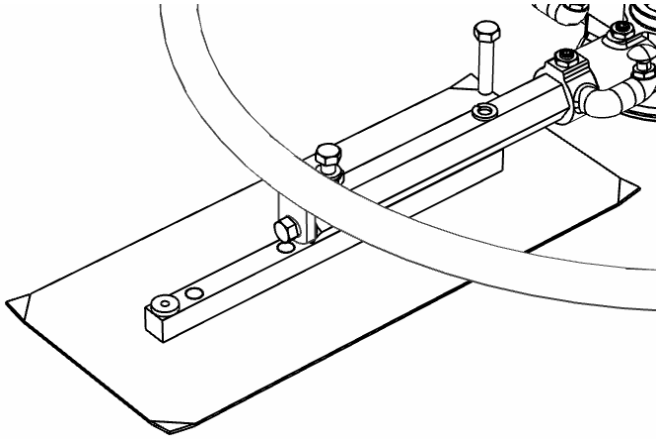


FIGURE 16: LOOSEN BLADE RETAINING BOLTS

3. Remove the yellow thread plug in the outermost bolt hole.
4. Rotate the blade around the outer retaining bolt and tighten the inner retaining bolt into the new hole (see Figure 17).

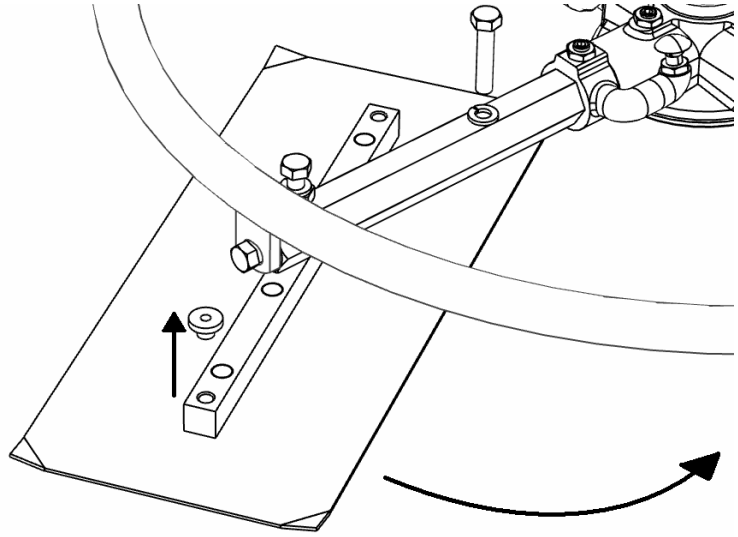


FIGURE 17: ROTATE THE BLADE

5. Replace the yellow thread plug in the old hole and re-tighten the outer retaining bolt.

4.3 FLOAT BLADES

Clip-on float blades are an optional addition to your NXT-90, allowing you to begin the trowelling operation much sooner after the concrete pour than the standard finishing blades. The increased surface area of the float blades allows your NXT-90 to "float" on wetter concrete than the finishing blades will permit.

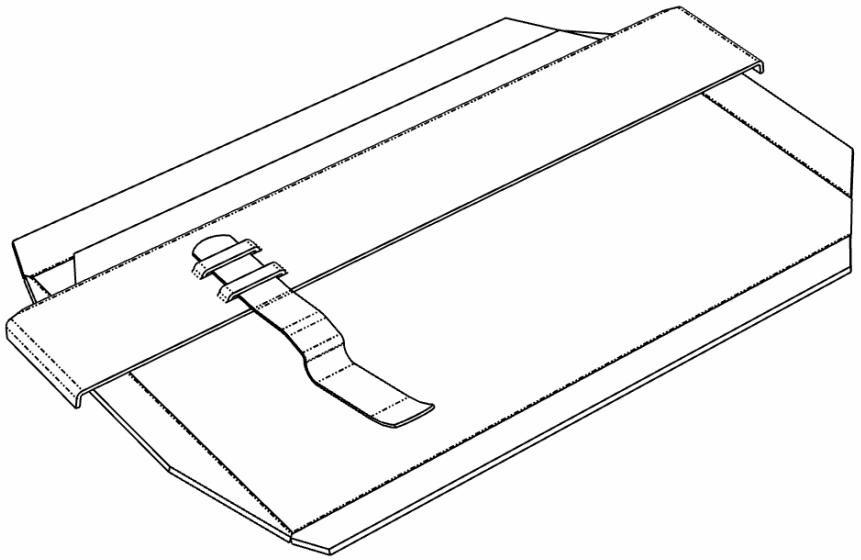


FIGURE 18: TYPICAL CLIP-ON FLOAT BLADE

4.4 FLOAT PANS

"Panning" is the earliest step that can be performed on wet concrete. The optional float pan allows the NXT-90 to begin working on concrete at the earliest possible time after the pour, and is the most effective tool for floating the concrete. The float pan fits to the existing finishing blades with minimal effort. As the concrete cures, panning will become more taxing on the NXT-90. At this time, switch to using float blades or finish blades.

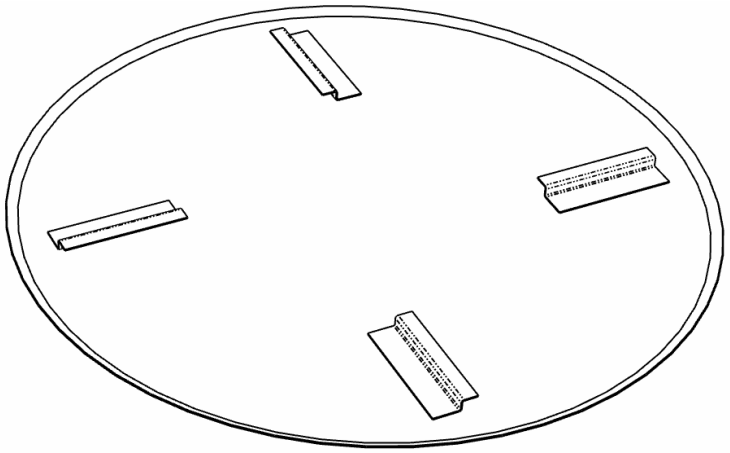
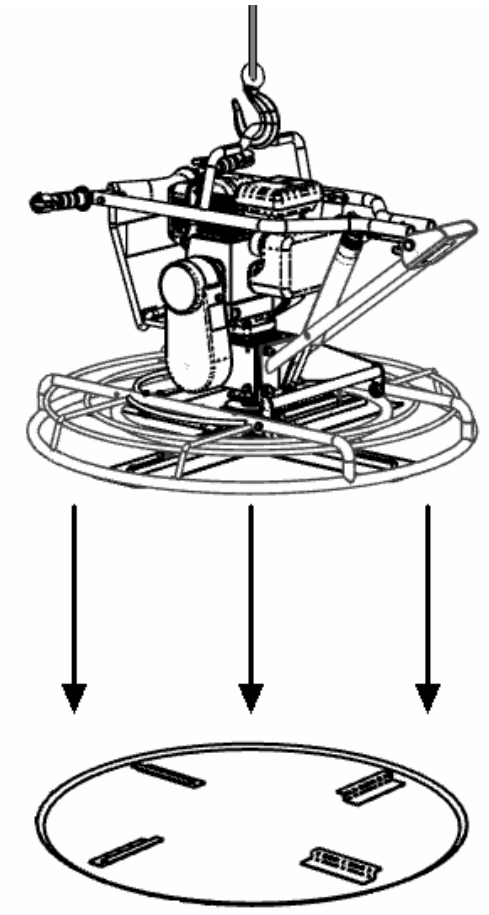


FIGURE 19: TYPICAL NXT-90 FLOAT PAN



WARNING

Avoid lifting the NXT-90 with the float pan installed. The pan may be secure enough to slide the equipment or lift over minor curbs, but it may fall if lifted so ALWAYS avoid situations where it will cause injury or equipment damage.

4.5 BLADE PITCH

The blade pitch is controlled by the knob directly behind the engine. The blades are pitched up as the concrete cures in order to place more direct pressure on the surface being trowelled. To raise the blade pitch turn the pitch knob clockwise. If the pitch is initially at the lowest setting, several full turns will be required before the blades start to raise. To lower the blade pitch, turn the pitch knob counterclockwise (see Figure 20).

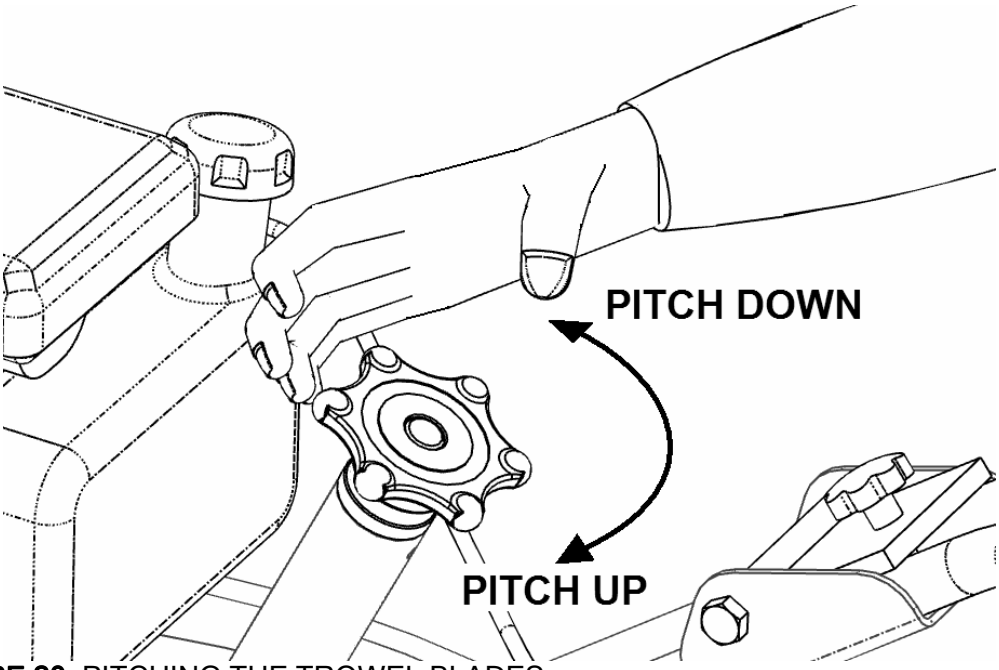


FIGURE 20: PITCHING THE TROWEL BLADES

The timing and degree of blade pitching depends entirely on your specific job site conditions, concrete mix, and trowelling skill. The maximum blade pitch and finishing blades should be used for the final pass to maximize surface smoothness.

NEXUS

5.0 STORAGE AND SERVICE

Proper maintenance, inspection and storage of the NXT-90 is vital to preserving the performance of your equipment. The most important daily activity is to keep the equipment clean and prevent the build-up of dried concrete. The NXT-90 can be cleaned with spray from a hose or pressure washer. Remove all concrete residue, concentrating on moving parts such as the spider assembly, pitch assembly, and drivetrain.

Dried on concrete must be removed from the NXT-90 before use as it can interfere with the proper operation by jamming moving parts and adding extra weight to the equipment, degrading the balance. Dried concrete is best removed using ***Liquid Hammer*** concrete remover as directed from Bartell Morrison Inc.

CAUTION

NEVER spray water on the engine's air filter or into the muffler. Doing so can damage the engine and void the engine's warranty.

- Maintain the **engine** of your NXT-90 as described in the included engine owner's manual. Missing manuals can be replaced by contacting your equipment's manufacturer or searching online.

- The NXT-90 **gearbox** is entirely self-contained and sealed. It should not be opened or serviced by anyone except authorized repair shops. The gearbox lubricant is in a gel state when the Power Trowel is not in use. It only liquefies when the equipment is active. Inspection of the sealed components is only necessary if the gearbox becomes oily at the shaft seals. Clean the gearbox and look for signs of a leak after prolonged use.

- The **spider plate assembly** uses a sealed oil bath for lubrication. Any sign of an oil leak should be followed up with an inspection of the trowel arms and oil seals. A jammed trowel arm is most likely the result of a blade strike, resulting in bending of the arm. A bent trowel arm must be replaced to regain smooth operation of your Power Trowel.

- The **drivetrain** should be frequently cleaned and inspected for concrete build-up. The drive belt should be inspected for tension and wear. This wear is accelerated by leaving the NXT-90 idling for extended periods. The clutch should be inspected if the Power Trowel experiences a sudden drop in performance or loud belt squeal.

- The **deadman safety handles** should be periodically checked for function to ensure the safety system is working properly.

DANGER

NEVER service the NXT-90 while the engine is running. Observe all fire and safety protocols outlined in the "Safety" section of this manual.

5.1 PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Power Trowel has been assembled with care and will provide years of service. Preventative maintenance, routine service, and proper use are essential to the long life of your equipment. Your dealer is interested in your new machine and has the desire to help you get the most value from it. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your Nexus dealer. For your convenience we have provided this space to record relevant data about your NXT-90. When in need of parts or service be prepared to provide your serial number. Locate the serial number now and record in the space below.

Date Purchased:		Type of Machine:	Power Trowel
Dealer Name:		Model:	NXT-90
Dealer Phone:		Serial Number:	

REPLACEMENT PARTS USED				MAINTENANCE LOG	
Part No.	Quantity	Cost	Date	Date	Operation

Routine Service Intervals		Each use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
General Inspection:							
Guards	Check		o	o	o	o	o
Warning stickers	Check		o	o	o	o	o
Test run	Check operation		o	o	o	o	o
Controls:							
Dead-man switch operation	Check	o	o	o	o	o	o
Pitch control assembly	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
Engine:							
Engine oil	Check Level	o	o	o	o	o	o
	Change		o		o		o
Engine oil filter	Replace				o		o
Oil cooler	Clean			o	o	o	o
Cooling Fins	Clean		o	o	o	o	o
Air cleaner	Check - clean	o	o	o	o	o	o
	Replace						o
Air Intake Line	Check				o		
	Replace						2 yrs
Fan Belt	Check tightness				o		o
	Replace						500 hrs
Valve clearance	Check-adjust				o		o
Fuel filter	Check & Clean			o	o	o	o
	Replace				o		o
Fuel Tank	Clean						500 hrs
Engine wiring	Check						o
Drive Train:							
Clutch / Pulley operation	Check	o	o	o	o	o	o
Spider plate assembly	Check	o	o	o	o	o	o
	Lubricate				o		o
V-Belt	Check	o	o	o	o	o	o
Blades	Check	o	o	o	o	o	o
Gearbox:							
Gearbox oil	Check Level				o		o
	Change	o			o		o
Gearbox breathers	Check operation			o	o	o	o

5.2 ROUTINE SERVICE INTERVALS

Due to the nature and environment of use, Nexus Power Trowels could be exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of your trowel.

- The initial service for your Power Trowel should be performed after 25 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule on Page 31. The "Routine Service Intervals" chart is handy for keeping a record of the maintenance performed and the parts used for servicing your equipment.
- Regular service according to the previous schedule will prolong the life of the NXT-90 and prevent expensive repairs.
- Keeping your NXT-90 clean and free from debris is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. After each use your Power Trowel should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating was applied prior to use. Dried concrete is most easily cleaned off using *Liquid Hammer* from Bartell Morrison Inc.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by "o" in the appropriate column. All Power Trowels have governed engine speed of 3600 rpm. See the engine manufacturer's manual for exact specifications.
- Failure to have your NXT-90 regularly serviced and properly maintained in accordance with the manufacturer's instructions will lead to premature failure and void the warranty.

5.3 STORAGE

The following steps should be taken to prepare your NXT-90 for extended storage:

1. Clean all concrete residue from the equipment.
2. Close the fuel shut-off valve.
3. Siphon all possible gasoline from the fuel tank.
4. Start the engine with the fuel shut-off valve still closed and let it run until it stops on its own. This prevents the build-up of residue in the carburetor.
5. Remove the spark plug and pour 2 oz. of SAE-30 or SAE-40 motor oil into the cylinder. Slowly crank the engine 2 – 3 times to distribute the oil throughout the cylinder to prevent corrosion during storage.
6. Store the NXT-90 upright in a cool, dry, well-ventilated place.

5.4 TROWEL ARM ADJUSTMENT

If your NXT-90 Power Trowel is experiencing excessive wobble while in use (i.e. the entire machine is rocking at the same rate that the blades are turning) you may have a bent or out of alignment trowel arm. Inspect the trowel arms for a distinct bend. If one or more arms are in fact bent they must be replaced.

If the arms are not bent, then they require adjustment. The optional trowel arm adjustment fixture allows fast and accurate trowel arm calibration. Refer to the parts catalogue at the end of this manual for part numbers and ordering information. To calibrate the trowel arms of your NXT-90:

1. Remove the finishing blades from your NXT-90.
2. Remove the spider assembly and remove the four (4) trowel arms from the hub by loosening the set screw for each one.
3. On each trowel arm loosen the locking jam nut for each carriage bolt (see Figure 21).

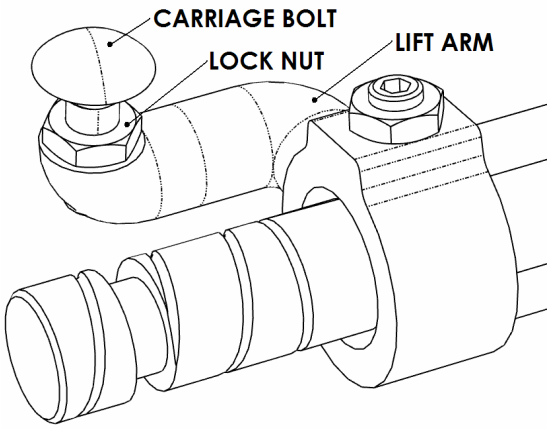


FIGURE 21: TROWEL ARM LIFT ASSEMBLY

4. Assemble the first trowel arm into the adjustment fixture as shown in Figure 22. Tighten the retaining bolts as much as possible. Ensure that the upper clamp is turned to the “46” side over the carriage bolt.

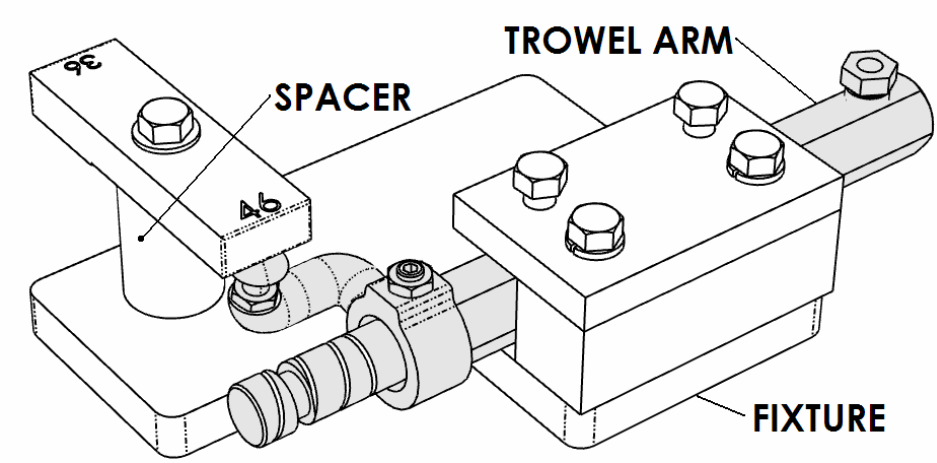


FIGURE 22: TROWEL ARM ADJUSTMENT FIXTURE

5. Adjust the carriage bolt using a wrench until it is firmly pressed against the bottom of the 46 clamp.
6. Re-tighten the locking nut while ensuring that the carriage bolt does not turn with it. If the carriage bolt does move, restart at step 5.
7. Remove the first trowel arm and repeat for the other three.
8. Re-install the calibrated trowel arms into the spider hub, ensuring that the oil seal is not damaged or dislodged.
9. Re-fill each of the four (4) trowel arm oil baths through the set screw hole on the spider hub. Replace the set screw after filling each one (see Figure 23).

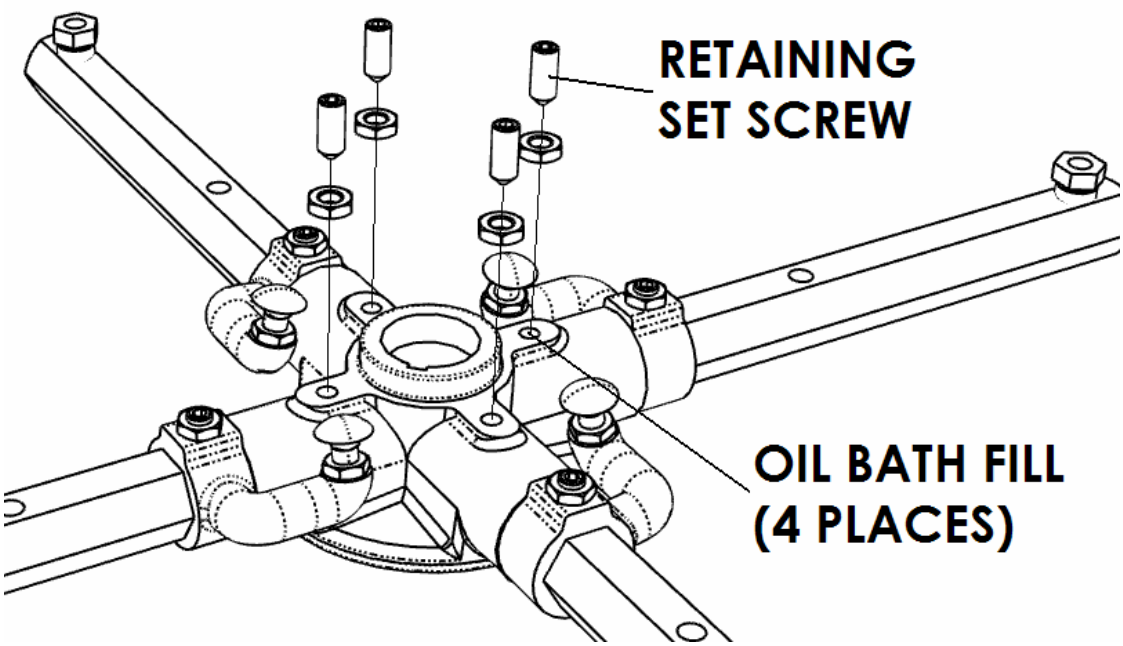


FIGURE 23: SPIDER OIL BATH FILL HOLES

10. Re-assemble the NXT-90 and test handling on a smooth surface.

NEXUS

This page intentionally left blank

Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat
Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita

We: Bartell Morrison Inc.
375 Annagem Blvd
Mississauga, Ontario, Canada
L5T 3A7
Tel: 905-458-5455 Fax: 905-458-5484

Declare under our sole responsibility that the product to which this declaration relates is in conformity with the following standard(s) or other normative documents.
Déclarons sous notre responsabilité que le produit cette déclaration est conforme aux normes suivantes ou d'autres documents habituels.
Verklaren onder onze verantwoordelijkheid dat het product naar welke de verklaring verwijst conform de volgende standaards of anders gebruikelijke documenten is.
Declaramos bajo nuestra única responsabilidad que el producto en lo que esta declaración concierne, es conforme con la siguiente normativa u otros documentos.
Declara sob sua responsabilidade que o produto a quem esta declaração interessar, está em comformidade com os seguintes documentos legais ou normas directivas.
Dichiariamo sotto la ns. unica responsibilita che il prodotto al quale questa dichiarazione si riferisce, è fabbricato in conformità ai seguenti standard e documenti di normative.

EN 349:1993	Safety of Machinery - Minimum gaps to avoid crushing of parts of the human body.
EN 418:1993	Safety of Machinery - Emergency stop equipment, functional aspects - Principles for design
EN 12100-1:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 1: Basic Terminology, methodology
EN 12100-2:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 2: Technical Principles
EN ISO 4872:1978	Acoustics - Measurement of Airborne noise emitted by construction equipment intended for outdoor use - Method for determining compliance with noise limits.
EN ISO 5349-1:2001	Mechanical vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. General requirements
EN ISO 5349-2:2001	Mechanical vibration. Measurement and assessment of human exposure to hand-transmitted vibration. Practical guidance for measurement at the workplace.

Following the provisions of Directive(s):
Suivant les directive(s) déterminées:
Volgens de vastgestelde richtlijnen:
Siguiendo las directiva(s):
No sequimento das clausulas da Directiva(s):
Seguendo quanto indicato dalla Direttiva(s):

98/37/EC	Machinery Directive
2000/14/EC	Noise Directive
2001/95/EC	General Product Safety Directive
2002/95/EC	Reduction of Hazardous Waste Directive

Technical Characteristics:
Caractéristiques techniques:
Technisch gegevens:
Características Técnicas:
Caracteristicas Técnicas:
Qualitàs di tecnico:

Model Modéle Type Modelo Modelo Modello	MachineSerial Number Numéro de Série machine Serienummer machine Máquina número de série Numero de serie da maquina Numero di seria la macchina	Engine Serial Number Numéro de Série moteur Serienummer motor Motor número de série Numero de serie do motor Numero di seria la motore	Weight Masse Gewicht Masa Massa Massa
			Lbs (kg)
NXT-90 Walk Behind Power Trowel			140 (63.6)

Noise Level Puissance acoustique Geluidniveau Nivel Sonoro Nivel del Ruido Potenza Acustica	Pressure level Pression acoustique Geluidsdrukniveau Nivel Acustico Pressão Acústica Pressione Acustica	Vibration level Niveau de vibration Vibratieniveau Nivel de Vibracion Nivel de Vibração Livello di Vibrazione
Lwa (dB)	Lpa (Db)	a_{hv} (m/s^2)
98	99	1.5

The Technical Construction file is maintained at:
Les fiches techniques de construction sont gardées à:
Het technische constructie document wordt bewaard te:
El archivo técnico de construcción se mantiene en:
O arquivo técnico de construção é mantido no (a):
L'originale dossier tecnico di construzione è conservato presso:

Bartell Morrison Inc.
375 Annagem Blvd.
Mississauga, Ontario, Canada
L5T 3A7
Telephone: 905-458-5455
Facsimile: 905-458-5484

The authorized representative is:
Le représentant autorisé est:
Gemachtigd vertegenwoordiger is:
La representación autorizada es:
O representante autorizado é:
Il rappresentate autorizzato:

Mr. Steve Adam
International Sales Manager
c.o. Bartell Morrison Europe
Nijverheidsstraat 11
1840 Londerzeel
Belgium
Telephone: +1 514 463 4838
Facsimile: +1 514 697 4239

Signature of Authorized Person:
Signature de la personne autorisée:
Handtekening van gemachtigd persoon:
Firma de la persona autorizada:
Assinatura de pessoa autorizada:
Firma della persona autorizzata:

Typed name of Authorized Person:
Nom dactlyographié de la personne autorisée:
Getypte naam van gemachtigd persoon:
Nombre de la persona autorizada:
Nome datilografado da pessoa autorizada:
Nome della persona autorizzata:

Robert S. Leggitt

Title of Authorized Person:
Titre de la personne autorisée:
Functie van gemachtigd persoon:
Cargo de la persona autorizada:
Titulo da pessoa autorizada:
Posizione della persona autorizzata:

Manager - Engineering

Date and place of issue:
Date et place d'émission:
Datum en plaats van afgifte:
Fecha y lugar de emision:
Data e lugar de emissão:
Data e luogo di emissione:

09.01.2009

Mississauga, Ontario, Canada

NOTES